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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,906	06/29/2001	Kenji Okamoto	740819-591	4646
22204	7590	06/13/2005	EXAMINER	
NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128			TRAN, HIEN THI	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/894,906

Applicant(s)

OKAMOTO ET AL.

Examiner

Hien Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 6-10 is/are pending in the application.
- 4a) Of the above claim(s) 8-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 6 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1 and 6-10 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/1/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed 4/1/05 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "Ce-Tb" (page 11, lines 10-14) is nowhere disclosed in the original specification.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Claim Objections***

2. Claim 7 is objected to because of the following informalities:

In claim 7, line 5 "MG" should be changed to --Mg--; in line 9 --the-- should be inserted before "Ce-Pr".

Appropriate correction is required.

### ***Specification***

3. The disclosure is objected to because of the following informalities:

On page 10, line 14 "an" should be changed to --and--.

On page 11, lines 10-14 the newly added mixed oxide of "Ce-Tb" is nowhere disclosed in the original specification.

Appropriate correction is required.

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

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***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1, 6-7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 896,134.

With respect to claims 1, 7, EP 896,134 discloses a catalyst for exhaust gas purification comprising:

an NO<sub>x</sub> absorbent material which absorbs NO<sub>x</sub> in an exhaust gas in an environment of excess oxygen whose exhaust gas oxygen concentration level is high, whereas, when the exhaust

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gas oxygen concentration level becomes lower in a given temperature range, said NO<sub>x</sub> absorbent material releases said absorbed NO<sub>x</sub>;

a precious metal; and

an oxygen storage material, such as Ce-Pr oxide (see, for example, page 2, paragraph 2; page 4, paragraph 16 to page 5, paragraph 19) and wherein the oxygen material is supported on a substrate in an amount which falls within the instant range (see, for example, page 9, paragraph 43; page 10, paragraph 47).

Although EP 896,134 is silent as to the properties of the oxygen storage material, e.g. ability to release a larger amount of oxygen in said given temperature range in comparison with other temperature ranges, such properties are inherent therein since the oxygen storage material of EP 896,134 is the same as that of the instant claims. It is also noted that temperature is directed to method limitation which is of no patentable moment in apparatus claims.

Although EP 896,134 does not have any specific example showing the amount of the Ce-Pr mixed oxide, EP 896,134 discloses that the amount for the oxygen storage material, e.g. ceria, is 78 g/l of the substrate and therefore meets the instant range.

Even if the amount of ceria is not the same as the amount of Ce-Pr, when substituting one type of mixed oxide, Ce-Pr, for the other, ceria, one of ordinary skill in the art would have routinely optimized the amount of Ce-Pr mixed oxide in the system to obtain the desired oxygen storage and purification thereof (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233).

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Also note that a disclosure in a reference is not limited to its specific illustrative examples, but must be considered as a whole to ascertain what would be realistically suggested thereby to one ordinary skill in the art. *In re Uhlig*, 54 CCPA 1300 376 F2d 320; 153 USPQ 460.

With respect to claim 6, EP 896,134 discloses that the NO<sub>x</sub> absorbent material is supported on the oxygen storage material (see, for example, page 9, paragraph 42).

### ***Response to Arguments***

9. Applicant's arguments filed 4/1/05 have been fully considered but they are not persuasive.

Applicants argue that in EP '134, the replacement of ceria with Ce-Pr mixed oxide is intended for improvement of heat resistance of the catalyst and is simply derived from the fact that the Ce-Pr oxide, when exposed to heat has a higher ability to absorb oxygen than ceria. Such contention is just showing that replacement of ceria with Ce-Pr mixed oxide would give a better oxygen absorption thereof.

Applicants argue that the reference fails to disclose how the Ce-Pr mixed oxide acts on NO<sub>x</sub> purification during air/fuel ratio lean operation. Such contention is not persuasive as although EP '134 is silent as to how the Ce-Pr mixed oxide acts on NO<sub>x</sub> purification during air/fuel ratio lean operation, EP '134 discloses the same type Ce-Pr mixed oxide used as an oxygen storage material. Since the Ce-Pr mixed oxide of EP '134 and the Ce-Pr mixed oxide of the instant claims are the same, they inherently possess the same properties thereof, e.g. the same effect on NO<sub>x</sub> purification during air/fuel ratio lean operation.

Applicants argue that it is impossible to derive the amount of Ce-Pr mixed oxide within the instant range from that mentioned for the ceria amount in EP '134 since the Ce-Pr and ceria

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are not the same. Such contention is not persuasive since one of having ordinary skill in the catalyst art, when replacing one type of oxygen storage material, e.g. ceria, with another type of oxygen storage material, e.g. Ce-Pr mixed oxide, would be able to optimize the amount of Ce-Pr mixed oxide in order in the system to obtain the desired oxygen storage benefits thereof (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233).

Applicants argue that although in paragraph 42, EP '134 discloses that the nitrogen oxide absorbing material layer 22 contained Pt and Ba carried by alumina and ceria and a hydrate alumina binder, that description does not state that barium is carried by the ceria. Such contention is not persuasive as first, the instant claim does not require that "barium is carried by ceria". Second, even if it does, the statement in paragraph 42 of EP clearly sets forth that the absorbing layer 22, which includes Pt and Ba, is carried by alumina and ceria, etc..

Applicants argue that in paragraph 46, EP '134 discloses that Pt and Ba are carried by alumina. Such contention is not persuasive as alumina and ceria are mixed together and coated on the honeycomb 21, forming a layer of a mixture of alumina and ceria. The paragraph 46 describes the mechanism of the impregnation of the mixture of Pt/Ba on the honeycomb, in which the Pt/Ba passes through ceria and reach alumina. However, the Pt/Ba mixture is still carried within the alumina/ceria layer.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Miyoshi et al is cited for showing state of the art.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Hien Tran*

**Hien Tran**  
**Primary Examiner**  
**Art Unit 1764**

HT  
June 9, 2005